

**John Lawton Butler**

National Marine Fisheries Service  
Southwest Fisheries Science Center  
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**EDUCATION:**

B. S. Oceanography, University of Washington, 1967  
M. S. Biological Oceanography, Oregon State University, 1971  
Ph.D. Marine Biology, Scripps Institution of Oceanography, 1987

**PRESENT POSITION:** Supervisory Fishery Research Biologist. Stock assessment of groundfish, Survey and assessment of demersal organisms including white abalone, market squid and rockfish. Lead white abalone recovery program.

<b>EXPERIENCE:</b>	2003-Present	Supervisor Research Fishery Biologist National Marine Fisheries Service Southwest Fisheries Science Center
	1986-2003	Research Fishery Biologist National Marine Fisheries Service Southwest Fisheries Science Center La Jolla, California
	1976-1986	Fishery Biologist National Marine Fisheries Service Southwest Fisheries Science Center La Jolla, Ca 92038
	1972-1976	Museum Technician Smithsonian Institution La Jolla, California
	1971-1972	Research Assistant

School of Oceanography  
Oregon State University  
Corvallis, Oregon 97330

1969-1970                      Teaching Assistant  
   Portland State University  
   Portland, Oregon

## RESEARCH INTERESTS

In Situ Surveys of Fish and Invertebrates  
Modeling of life history stages of fish  
Ecology of coastal fishes  
Recruitment to fish populations  
Invertebrate biology and population biology

## HONORS AND AWARDS:

1980 Sustained Superior Performance Award  
1991 Quality Step Increase  
1994 Special Act Award  
1996 Performance Award  
1996 CDFG Research Award  
1996 U.S. Department of Commerce Bronze Medal for Fishery Research  
1997 Performance Award  
1997 CDFG Research Award                      100K  
1998 Performance Award  
1998 CDFG Research Award                      100K  
1999 Performance Award  
1999 NMFS White Abalone Research Award 70K  
1999 NMFS EFH Research Award                      30K  
1999 NMFS Groundfish Research Award                      75K  
2000 Performance Award  
2000 NMFS PR White Abalone Res. Award 75K  
2000 NMFS EFH Research Award                      35K  
2001 Performance Award  
2001 NMFS EFH Research Award                      135K  
2001 NMFS Groundfish Research Award 100K  
2001 NMFS PR White Abalone Res. Award 130K  
2002 Performance Award  
2002 NMFS EFH Research Award                      170K  
2002 NMFS PR White Abalone Res. Award 130K  
2002 PSMFC Groundfish Res. Award                      90K  
2003 PSMFC Groundfish Res. Award                      175K  
2003 NMFS PR White Abalone Res. Award 130K  
2003 NMFS SAIP Project                      175K

2005 Best Paper in Fishery Bulletin for 2003  
2007 Best Paper in Fishery Bulletin for 2006

**PROFESSIONAL AFFILIATIONS:**

American Fisheries Society  
American Institute of Fishery Research Biologists

**SERVICE ON SCIENTIFIC COMMITTEES:**

Research Associate, Scripps Institution of Oceanography, 1988-present.  
Participant in National Science Foundation Workshop on Visual Database Systems for Marine Sciences, Sept. 28-29, 1992, San Francisco, CA.  
Chairman, Doctoral Thesis Committee for Eva Cotero, CISESE, 1993-2000.  
Participant in the meeting of the Committee on Undersea Vehicles and National Needs of the National Research Council, July 20, 1993.  
Participant in Sardine Management and Assessment Workshop, California Fish and Game, Oct. 12, 1993.  
Secretary-Treasurer, Southern California District, American Institute of Fishery Research Biologists, 1993-1995.  
Participant in Science Review Panel at the National Undersea Research Center at the University of Connecticut, Avery Point, Connecticut, Oct. 25- 27, 1994.  
Member, Masters Thesis Committee, Donna Kline, Moss Landing Marine Laboratory, 1994-1996.  
Advisor, Anthony Carl Chatwin, University of Sao Paulo, Brazil, 1995.  
Present paper on Age, Growth and Natural Mortality of Shortspine Thornyhead at NMFS West Coast Groundfish Stock Assessment Review, July 10-12, 1995, Portland, OR.  
Contractor, revision of otolith data entry and analysis programs with Erlend Moksness, Inst. Mar. Biol., Norway, 1995.  
Director, Southern California District, American Institute of Fishery Research Biologists, 1995-1996.  
Organizer and Lecturer, Short Course in Fishery Modeling, given by Southern California District, American Institute of Fishery Research Biologists, California State University at San Marcos, May 29-30, 1996.  
Participant, International GLOBEC/SPACC Meeting, Mexico City, Aug. 19 23, 1996.  
Present paper on Cohort dynamics of larval Pacific Hake, CalCOFI Conference 1997  
Membership Chairman, American Institute of Fishery Research Biologists, 1997-1999.  
Lecturer, Workshop on Age and Daily Somatic Growth of Juvenile Fishes, Instituto Nacional de Investigacion y Desarrollo Pesquero, Mar del Plato, Argentina, Nov. 24-28, 1997.  
Session Chair, International Symposium on Fish Otolith Research and Application, Bergen Norway, June 1998.  
Stock Assesment Team Leader, Blackgill Rockfish, 1998  
Present paper on Blackgill rockfish fishery at CalCOFI Conference 1998  
Stock Assessment Team Leader, Cowcod, 1999  
Participate in White Abalone Survey using Delta submersible

Present paper on Cowcod Fishery at CalCOFI Conference 1999  
Rapporteur, Trinational Sardine Forum, Ensenada, Mexico, Dec. 2000.  
Present paper on Age and Growth of Market Squid at CalCOFI Conference 2000  
Organizer 2001 California Cooperative Fishery Oceanography Investigation Symposium  
on Restoring Abalone Populations, La Jolla, California, 2001.  
Chair, Workshop on White Abalone Recovery, November 2001  
Member, White abalone Recovery Team, 2002-present.  
Conduct survey of white abalone abundance in California, July 2002.  
Participant, Bridging the Gap between Sustainable Fisheries and Protected Species,  
Charleston, South Carolina, Dec. 2002.  
Conduct survey of white abalone abundance in California, July 2003.  
Present paper on “Biology and Population Dynamics of Cowcod Rockfish (*Sebastes  
levis*) in the Southern California Bight” at the Southern California Academy of Sciences.  
May 2003  
Present paper on “New Estimates of the abundance of white abalone, *Haliotis sorenseni*,  
at 5<sup>th</sup> International Abalone Symposium, Qingdao, China, Oct. 2003.

**TITLE OF PH.D. DISSERTATION:**

Comparison of the early life history parameters of Pacific sardine and northern anchovy  
and implications for species interaction.

**PUBLICATIONS - JOHN L. BUTLER**

1. Stein, D. and J. Butler. 1971. A notocanthid *Macdonaldia challengeri* collected off the Oregon Coast. J. Fish. Res. Bd. Canada 28: 1349-1350.
2. Stein, D. and J. Butler. 1972. First records of *Bathysaurus mollis* (Pisces: Bathysauridae) from the Northeast Pacific Ocean. J. Fish. Res. Bd. Canada 29: 1093-1094.
3. Butler, J. L. and W. G. Percy. 1972. Swimbladder morphology and specific gravity of myctophids off Oregon. J. Fish. Res. Bd. Canada 29: 1145-1150.
4. Butler, J. L. and E. H. Ahlstrom. 1975. A review of the deep-sea fish genus *Scopelengys* (Neoscopelidae) with a description of new species, *Scopelengys clarkei*, from the Central Pacific. Fish. Bull. U. S. 74: 142-150.
5. Ahlstrom, E. H., J. L. Butler, and B. Y. Sumida. 1976. Pelagic stromateoid fishes (Pisces, Perciformes) of the Eastern Pacific: Kinds, distributions, and early life histories and observations on five of these from the Northwest Atlantic. Bull. Mar. Sci. 26: 285-402.
6. Rosenblatt, R. H. and J. L. Butler. 1977. The ribbonfish genus *Desmodema* with the description of a new species (Pisces, Trachipteridae). Fish. Bull. U. S. 75: 843-856.
7. Butler, J. L. 1979. The nomeid genus *Cubiceps* (Pisces) with a description of a new species. Bull. Mar. Sci. 29: 226-241.
8. Hunt, G. L. and J. L. Butler. 1980. Reproductive ecology of Western Gulls and Xantus' Murrelets with respect to food resources in the Southern California Bight. Calif. Coop. Oceanic Fish. Invest. Rep. Vol. XXI: 62-67.
9. Moser, H. G. and J. L. Butler. 1981. Description of reared larvae and early juveniles of the Calico Rockfish, *Sebastes dallii*. Calif. Coop. Oceanic Fish. Invest. Rep. Vol. XXII: 88-95.
10. Butler, J. L., H. G. Moser, G. S. Hageman, and L. E. Nordgren. 1982. Developmental stages of three California sea basses (*Paralabrax*, Pisces, Serranidae). Calif. Coop. Oceanic Fish. Invest. Rep., Vol. XXIII. 252-268.
11. Moser, H. G., D. A. Ambrose, M. S. Busby, J. L. Butler, E. M. Sandknop, B. Y. Sumida and E. G. Stevens. 1983. Description of early stages of white seabass, *Atractoscion nobilis*. Calif. Coop. Oceanic Fish. Invest. Rep. XXIV: 182-193.
12. Ambrose, D. A., J. L. Butler, H. G. Moser, B. Y. Sumida, E. M. Sandknop, and E. G. Stevens. 1983. Description of the larvae of the cusk eels, *Ophidion scrippsae* and

- Chilara taylori* (Family Ophidiidae). Calif. Coop. Oceanic Fish. Invest. Rep. XXIV: 226-234.
13. Kawaguchi, K. and J. L. Butler. 1984. Fishes of the genus *Nansenia* (Microstomatidae) with descriptions of seven new species. Nat. Hist. Mus. Los Angeles Co. Contr. in Sci. 352: 1-22.
  14. Butler, J. L. and B. Rojas de Mendiola. 1985. Growth of larval sardines off Peru. Calif. Coop. Oceanic Fish. Invest. Rep., Vol. XXVI. 113-117.
  15. Castillo, G., E. Aguilera, G. Herrera, P. A. Bernal, J. L. Butler, J. Chong, H. Gonzalez, C. Oyarzun, and C. Veloso. 1985. Larval growth rates of the Pacific sardine, *Sardinops sagax*, off Central Chile, determined by daily ring counts in otoliths. Biol. Pesc. Chile. 14: 3-10.
  16. Moksness, E., J. Butler, and R. L. Radtke. 1987. Estimation of age and growth rate in Norwegian spring spawning herring (*Clupea harengus* L.) larvae and juveniles. Sarsia 72: 341- 342.
  17. Moser, H. G and J. L. Butler. 1987. Description of reared larvae of six species of *Sebastes* (*S. constellatus*, *s. entomelas*, *S. ovalis*, *S. rubrivinctus*, *S. rufus* and *S. serranoides*) U. S. Dep. Commer. NOAA Tech. Rep. NMFS 48: 19-29.
  18. Butler, J. L. and D. Pickett. 1988. Age specific vulnerability of Pacific sardine (*Sardinops sagax*) to predation by northern anchovy (*Engraulis mordax*). Fish. Bull. U. S. 86: 163-167.
  19. Watanabe, Y., J. L. Butler and T. Mori. 1989. Age and growth of Pacific saury in the eastern and western Pacific. Fish. Bull. U. S. 86(3) 489-498.
  20. Butler, J. L. 1990. Growth during the larval and juvenile stages of the northern anchovy, *Engraulis mordax*, in the California Current during 1980-84. Fish. Bull. U. S. 87:645-652.
  21. Owen, R. W., J. L. Butler, N. H. Lo, G. Theilacker, A. Alvarino, J. Hakeson, and J. R. Hunter. 1990. Growth and survival of northern anchovy, *Engraulis mordax*, larvae in contrasting sites. Fish. Bull. U. S. 87: 673-688.
  22. Butler, J. L., C. A. Kimbrell, and R. D. Methot. 1990. The 1987-88 demersal fish survey off Central California (34° 30'N to 36° 30'N). NOAA-NMFS TECH. MEM. No. 133 44pp.
  23. Hunter, J. R., J. L. Butler, C. Kimbrell and E. A. Lynn. 1990. Bathymetric patterns in size, age, water content, caloric density and biomass of Dover sole, *Microstomus pacificus*. Calif. Coop. Oceanic Fish. Invest. Rep. 31:132-144.

24. Butler, J. L. 1991. Mortality and recruitment of Pacific sardine, *Sardinops sagax caerulea*, larvae in the California Current. *Can. J. Fish. Aquat. Sci.* 48: 1713-1723.
25. Butler, J. L., W. W. Wakefield, P. B. Adams, B. H. Robison and C. H. Baxter. 1991. Application of line transect methods to surveying demersal communities with ROVs and manned submersibles. *OCEANS 91 Conf. Proc.*
26. Smith, P. E., N. C. H. Lo, and J. L. Butler. 1992. Life-stage duration and survival parameters as related to interdecadal population variability in Pacific sardine. *Calif. Coop. Oceanic Fish. Invest. Rep.* 33: 41-49.
27. Alvarez, F. and J. L. Butler. 1992. First attempt to determine birthdates and environmental relationship of juvenile sardine, *Sardina pilchardus* (Walb.), in the region of Vigo (NW Spain) during 1988. *Biol. Inst. Exp. Oceanogr.* 8:115-121.
28. Butler, J. L. 1992. Collection and preservation of material for otolith analysis. *In* Otolith microstructure examination and analysis, D. K. Stevenson and S. E. Campana, eds. *Can. Spec. Publ. Fish. Aquat.* 117:13-17.
29. Butler, J. L., P. E. Smith, N. C.-h. Lo. 1993. The effect of natural variability on anchovy and sardine population growth. *Calif. Coop. Oceanic Fish. Invest. Rep.* 34:104-111.
30. Adams, Peter B., John L. Butler, Charles H. Baxter, Thomas E. Laidig, Katherine A. Dahlin and W. Waldo Wakefield. 1995. Population estimates of Pacific coast groundfishes from video transects and swept-area trawls. *Fish. Bull. U. S.* 93: 446-455.
31. John L. Butler, Craig Kestelle, Ken Rubin, Donna Kline, Henk Heijnis, Larry Jacobson, Allen Andrews, W. Waldo Wakefield. 1995. Age determination of shortspine thornyhead, *Sebastolobus alascanus*, using otolith sections and <sup>210</sup>Pb:<sup>226</sup>Ra ratios. *Admin. Rep.*
32. Lo, N. C. H., P. E. Smith, and J. L. Butler. 1995. Population growth of northern anchovy and Pacific sardine using stage-specific matrix models. *Mar. Ecol. Prog. Ser.* 127:15-26.
33. Laidig, T. E., P. B. Adams, C. H. Baxter and J. L. Butler. 1995. Feeding on euphausiids by *Octopus rubescens*. *Cal. Fish and Game.* 81:77-79.
34. Butler, J. L., K. A. Dahlin, and H. G. Moser. 1996. Growth and duration of the planktonic phase and a stage based population matrix of Dover sole, *Microstomus pacificus*. *Bull. Mar. Sci.* 58:29-43.
35. Butler, J. L., M. L. Granados-G., J. T. Barnes, M. Yaremko, and B. J. Macewicz. 1996. Age composition, growth and maturation of the Pacific Sardine, *Sardinops sagax*, during 1994. *Calif. Coop. Oceanic Fish. Invest. Rep.* 37:152-159.

36. Moser, H. G. and J. L. Butler. 1996. Microstomatidae. *In* The early stages of fishes in the California Current region, H. G. Moser, ed. CalCOFI Atlas 33, pp. 208-215.
37. Butler, J. L. And R. N. Nishimoto. 1997. Growth and cohort dynamics of larval Pacific hake, *Merluccius productus*. Calif. Coop. Oceanic Fish. Invest. Rep. 38:63-68.
38. Butler, J. L., H. G. Moser, W. Watson, D. A. Ambrose, S. R. Charter, and E. M. Sandknop. 1997. Fishes collected by midwater trawls during two cruises of the David Star Jordan in the northeastern Pacific Ocean, April-June and September-November, 1972. NOAA Tech Memo, NOAA-TM-NMFS-SWFSC-244, 83 p.
39. Butler, J. and E. Moksness. 1997. Manual for OTO 3.0 and OPS programs for reading daily increments. NOAA-TM-NMFS-SWFSC-238, 57 p.
40. Butler, J. L., L. D. Jacobson and J.T. Barnes. 1998. Stock assessment of blackgill rockfish in 1998. *In* Pacific Fishery Management Council. Appendix: Status of the Pacific Coast Groundfish Fishery through 1998 and recommended biological catches for 1999: Stock assessment and fishery evaluation. Pacific Fishery Management Council, 2130 SW Fifth Avenue, Suite 224, Portland, Oregon, 97201.
41. Butler, J. L., L. D. Jacobson, J.T. Barnes, H. G. Moser and R. Collins. 1999. Stock assessment of cowcod in 1999. *In* Pacific Fishery Management Council. Appendix: Status of the Pacific Coast Groundfish Fishery through 1999 and recommended biological catches for 2000: Stock assessment and fishery evaluation. Pacific Fishery Management Council, 2130 SW Fifth Avenue, Suite 224, Portland, Oregon, 97201.
42. Butler, J. L., D. Fuller and M. Yaremko. 1999. Age and growth of market squid (*Loligo opalescens*) off California during 1998. Calif. Coop. Oceanic Fish. Invest. Rep. 40:191-195.
43. Butler, J.L. and A. Folkvord. 2000. Section 2: Estimation of fish age and growth. Fish. Res. 46(2000):51-52.
44. Moser, H.G., R.L. Charter, W. Watson, D.A. Ambrose, J.L. Butler, S.R. Charter, and E.M. Sandknop. 2000. Abundance and distribution of rockfish (*Sebastes*) larvae in the Southern California Bight in relation to environmental conditions and fishery exploitation. Calif. Coop. Oceanic Fish. Invest. Rep. 41:132-147.
45. Moser, H.G., R.L. Charter, W. Watson, D.A. Ambrose, K.T. Hill, P.E. Smith, J.L. Butler, E.M. Sandknop, and S.R. Charter. 2001. The CalCOFI ichthyoplankton time series: Potential contributions to the management of rocky-shore fishes. Calif. Coop. Oceanic Fish. Invest. Rep. 42:112-128.
46. Butler, J. L., L. D. Jacobson, J. T. Barnes and H. G. Moser. 2003. Biology and population dynamics of cowcod (*Sebastes levis*) in the Southern California Bight. Fish. Bull. 101: 260-280.

47. Cochrane, G. R., J. L. Butler and G. E. Davis. 2005. Mapping white abalone habitat using textural analysis of acoustic backscatter data. In *Effects of Fishing on Benthic Habitats*. Trans. Amer. Fish. Soc.
48. Pinkard, D.R., D.M. Kocak, and J.L. Butler. 2005. Use of a video and laser system to quantify transect area for remotely operated vehicle (ROV) rockfish and abalone surveys. *Proc. MTS/IEEE OCEANS '05*, 5 pp.
49. Butler, J. L., M. Neuman, D. Pinkard, R. Kvitek and G. Cochrane.. 2006. The use of multibeam sonar mapping techniques to refine population estimates of the endangered white abalone (*Haliotis sorenseni*) . *Fish. Bull.* 104:521–532
50. Caskey, L.L., Riedel, R.R., Costa-Pierce, B, Butler, J, Hurlbert, S. H. 2007. Population dynamics, distribution, and growth rate of tilapia (*Oreochromis mossambicus*) in the Salton Sea, California, with notes on bairdiella (*Bairdiella icistia*) and orangemouth corvina (*Cynoscion xanthulus*). *Hydrobiologia* (2007) 576:185–203